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INFORMATION REPORT

CD NO.

COUNTRY Yugoslavia

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DATE DISTR. 15 July 1979

SUBJECT The High Frequency Telephone
System of the Slovene State
Power Plants

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SUPPLEMENT TO
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transformer stations are connected by two systems of high frequency telephone lines. The first system was installed by the Germans during the war. It is equipped with modern Siemens-Halske automatic exchange equipment (Wachlersystem), and it connects the hydro-electric plant at Dravograd, the caloric plants at Velenje and Trbovlje, and the DES central administration in Ljubljana. This system is inefficiently operated because of a shortage of qualified personnel and equipment. The second system, built by the Brown-Boveri Company, was installed before the second world war. It connects the hydro-electric plant at Fala near Maribor, the caloric plant at Trbovlje, and the transformer stations at Radvanje and Lasko. The equipment of this system is in poor condition.

1. An ordinary local telephone line connects the transformer station at Lasko with the caloric plant at Rajhenburg and with the DES office in Zagreb, and a similar telephone line connects the caloric plant at Velenje with Slovenjgradec, Gustanj and Mexica. The relay station connecting the first and second systems is located in Trbovlje. The relay station connecting the first system and Velenje-Slovenjgradec-Gustanj-Mexica telephone line is the caloric plant at Velenje. The relay station between the transformer station at Lasko serves as the relay station connecting the second system and the Lasko-Rajhenburg-Zagreb telephone line. These relay stations are used because of the weak transmission.
2. The DES high frequency telephone net for internal communication uses one of the high tension overhead transmission lines. The telephone apparatus is separated from the overhead line by a condenser which suitably adapts the overhead line voltage. At both ends of the overhead line used for high frequency telephone and transfer of energy, there is a "Drosselspule" (high frequency choke) which prevents high frequency currents from entering the switching device (stikalna naprava) and transformers. High frequency currents are transferred by condenser which is located in front of the choke and is connected by a high frequency cable to the telephone apparatus, usually located in the command room of the power plant or transformer station. The condenser is flanked by heavy duty fuse (prenapetostno varovalo).

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installed in the open air distributing device (prostozracna razdelilna naprava) when the voltage of the overhead line is more than 60 kV, and in the switch-house (stikalnica) when it is less than 60 kV. The cylinder-shaped choke consists of thick copper windings and variable condensers which are adjusted according to the reverse frequency of the high frequency telephone. The condenser is used to separate the overhead line voltage from the telephone apparatus, and it transfers only the high frequency currents used for telephones. The dimensions, shape, and location of the condenser are governed by the voltage, but it is usually cylinder-shaped, with the outer part porcelain. The dimensions of a 110 kV condenser are 150 cm in height, and 50 cm. in width. A heavy duty fuse is installed near the condenser, in a prism-shaped sheet metal box and the high frequency cable which is metal coated connects the condenser. The high frequency telephone apparatus which is of varying dimensions. Larger plants have automatic telephone systems whereas smaller plants are provided with local battery systems.

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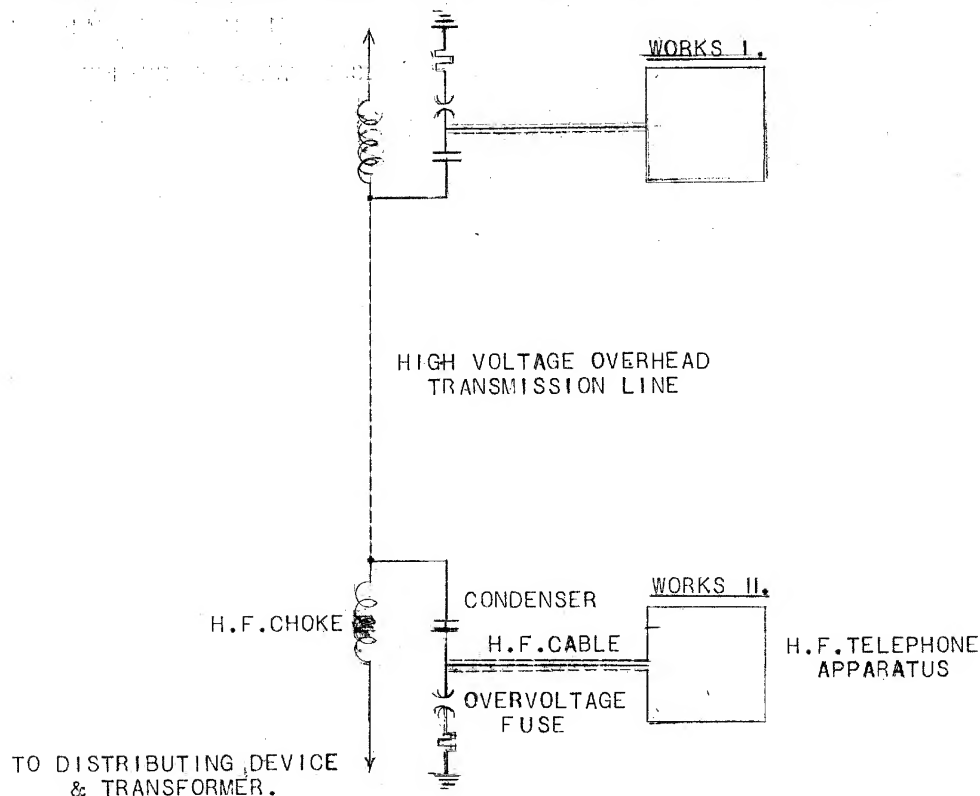
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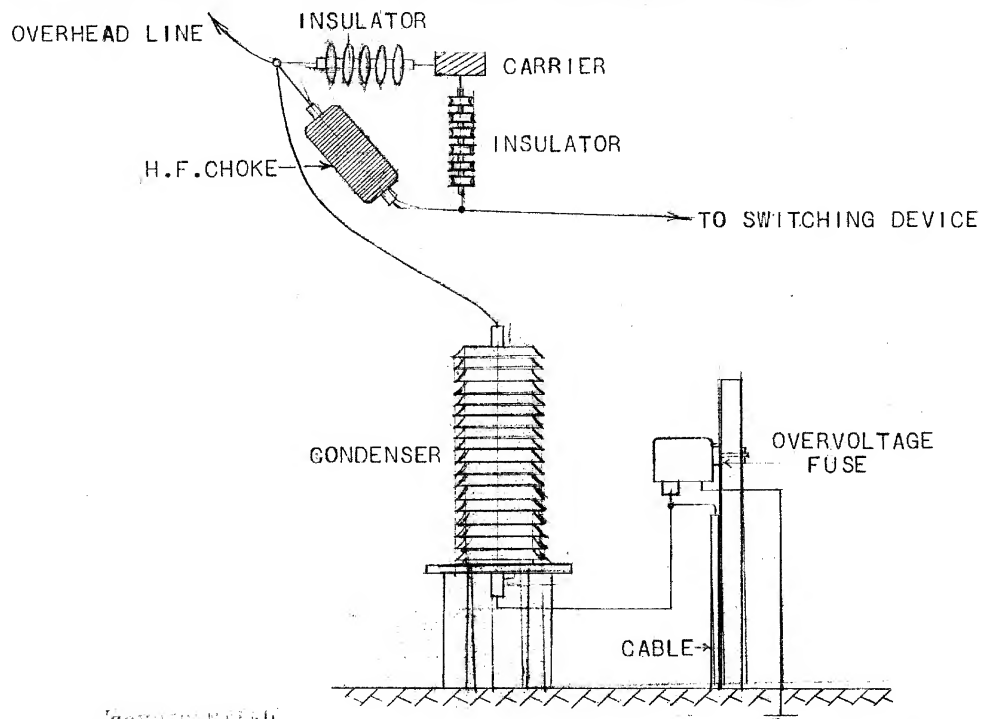
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HIGH FREQUENCY TELEPHONY OF D.E.S. ELECTRO-OBJECTS

BASIC DIAGRAM OF HIGH FREQUENCY TELEPHONE APPARATUS CONNECTION



BASIC DESIGNE OF CONNECTION TO OVERHEAD TRANSMISSION LINE



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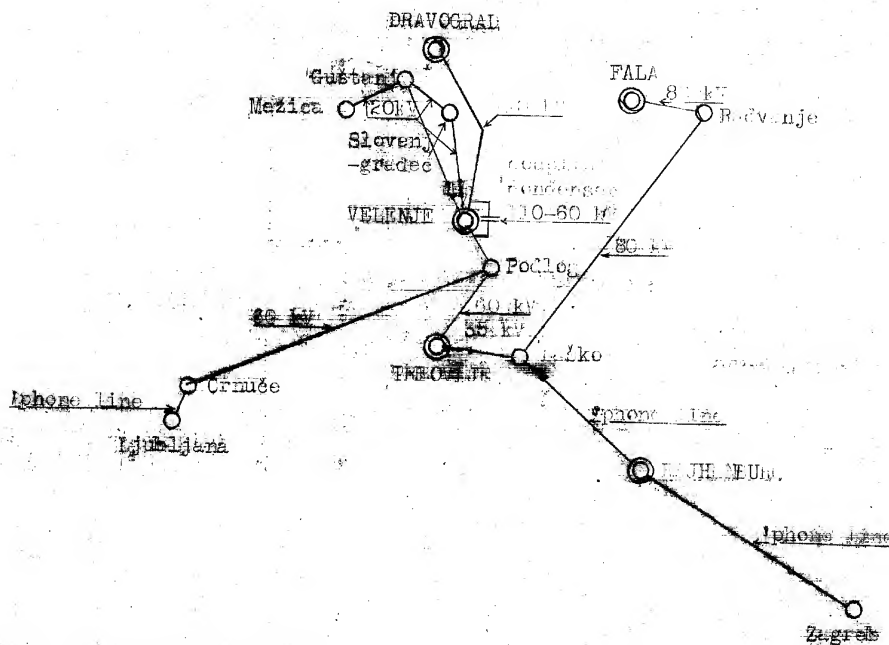
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INTELLIGENCE AGENCY

HIGH FREQUENCY TELEPHONE CONNECTION OF D.E.S. ELECTRO-OBJECTS



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I SYSTEM:

Ljubljana (direction)
Črnuče
Podlog
Trnovlje
Velenje
Dravograd

Šiško-Rajhenburg-Zagreb

Velenje-Gustanj-Mezica-Slovenjgrad

II SYSTEM:

Fala
Radevanje (Maribor)
Ljasko
Trnovlje